

WHAT IS CLAIMED IS:

1. A computer system, comprising:  
a first cluster including a first plurality of processors and a first interconnection controller, the first plurality of processors and the first interconnection controller in  
5 communication using a point-to-point architecture;  
a second cluster including a second plurality of processors and a second interconnection controller, the second plurality of processors and the second interconnection controller in communication using a point-to-point architecture, wherein polling for a link from the first interconnection controller to the second  
10 interconnection controller can be enabled or disabled by configuring the first interconnection controller.
2. The computer system of claim 1, wherein the first cluster of processors and the second cluster of processors share a single virtual address space.
3. The computer system of claim 1, wherein the first interconnection  
15 controller includes a physical layer enable indicator.
4. The computer system of claim 1, wherein the first interconnection controller includes a fence indicator configurable to prevent the transmission of logical packets between the first interconnection controller and the second interconnection controller.
- 20 5. The computer system of claim 1, wherein the first interconnection controller includes a reinitialization indicator configurable to direct the first interconnection controller to reinitialize the link.
6. The computer system of claim 5, wherein reinitialization comprises having a transmitter associated with the first interconnection controller send a training  
25 sequence to the second interconnection controller.
7. The computer system of claim 6, wherein the transmitter sends the training sequence when the polling active state is set.
8. The computer system of claim 7, wherein the transmitter does not send the training sequence when the polling sleep state is set.
- 30 9. The computer system of claim 5, wherein reinitialization comprises having a associated with the first interconnection controller send an initialization sequence to the second interconnection controller.

10. The computer system of claim 1, wherein the first interconnection controller includes a plurality of cluster ID indicators operable to hold values identifying remote clusters of processors.

11. The computer system of claim 1, wherein the first interconnection controller includes configuration space registers comprising physical layer enable, fence, reinitialization, and cluster ID bits.

12. A method for introducing a cluster of processors, the method comprising:

configuring a first interconnection controller in a first cluster including a first plurality of processor in communication using a point-to-point architecture to poll for the presence of a second interconnection controller;

asserting a reset signal on a second interconnection controller in a second cluster including a second plurality of processors in communication using a point-to-point architecture;

establishing a link layer protocol on a connection between the first and second interconnection controllers.

13. The method of claim 12, wherein polling is performed continuously.

14. The method of claim 12, wherein the first interconnection controller includes a physical layer enable indicator.

15. The method of claim 12, wherein the first interconnection controller includes a fence indicator configurable to prevent the transmission of logical packets between the first interconnection controller and the second interconnection controller.

16. The method of claim 12, wherein the first interconnection controller includes a reinitialization indicator configurable to direct the first interconnection controller to reinitialize the link.

17. The method of claim 16, wherein reinitialization comprises having a transmitter associated with the first interconnection controller send a training sequence to the second interconnection controller.

18. The method of claim 17, wherein the transmitter sends the training sequence when the polling active state is set.

19. The method of claim 18, wherein the transmitter does not sent the training sequence when the polling sleep state is set.

20. The method of claim 16, wherein reinitialization comprises having a  
associated with the first interconnection controller send an initialization sequence to the  
second interconnection controller.

21. The method of claim 12, wherein the first interconnection controller  
5 includes a plurality of cluster ID indicators operable to hold values identifying remote  
clusters of processors.

22. The computer system of claim 12, wherein the first interconnection  
controller includes configuration space registers comprising physical layer enable,  
fence, reinitialization, and cluster ID bits.

10 23. A computer system, comprising:

means for configuring a first interconnection controller in a first cluster  
including a first plurality of processor in communication using a point-to-point  
architecture to poll for the presence of a second interconnection controller;

15 means for asserting a reset signal on a second interconnection controller in a  
second cluster including a second plurality of processors in communication using a  
point-to-point architecture;

means for establishing a link layer protocol on a connection between the first  
and second interconnection controllers.

20 24. The computer system of claim 23, wherein polling is performed  
continuously.

25. The computer system of claim 23, wherein the first interconnection  
controller includes a physical layer enable indicator.

26. The computer system of claim 23, wherein the first interconnection  
controller includes a fence indicator configurable to prevent the transmission of logical  
25 packets between the first interconnection controller and the second interconnection  
controller.

27. The computer system of claim 23, wherein the first interconnection  
controller includes a reinitialization indicator configurable to direct the first  
interconnection controller to reinitialize the link.

30 28. The computer system of claim 27, wherein reinitialization comprises  
having a transmitter associated with the first interconnection controller send a training  
sequence to the second interconnection controller.

29. . The computer system of claim 28, wherein the transmitter sends the training sequence when the polling active state is set.

30. The computer system of claim 29, wherein the transmitter does not sent the training sequence when the polling sleep state is set.

5 31. The computer system of claim 27, wherein reinitialization comprises having a associated with the first interconnection controller send an initialization sequence to the second interconnection controller.